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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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LM02/1204

EXAMINER

RAMAKRISHNAIAH, M

ART UNIT	PAPER NUMBER
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2743

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DATE MAILED: 12/04/98

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.
08/833,511

Applicant(s)
Lester F. Ludwig.

Examiner
Melur Ramakrishnaiah

Group Art Unit
2743



☒ Responsive to communication(s) filed on Apr 7, 1997

☒ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) 1-24 is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1-24 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☒ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 5

☐ Interview Summary, PTO-413

☒ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The specification is objected to under 35 U.S.C 112, first paragraph, as failing to provide enabling disclosure.

2. Claims 3, 12 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The specification does not explain or specify what is contained in claims 3, 12 (note: applicant maintains that support for these claims can be found on lines 9 to 10 on page 28. But lines 9 to 10 says the following: If stereo audio is used in teleconferencing (i.e., to create useful spatial metaphors for users), a second echo canceler may be recommended.” which is not what is contained in claims 3, 12).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-4, are rejected under 35 U.S.C. 103(a) as being unpatentable over Shibata et al (US PAT. 5,365,265 filed 07/15/92, hereinafter Shibata) in view of Park et al. (US PAT. 5,410,595, filed 11/12/92, hereinafter Park).

Regrading claim 1, Shibata discloses the following: a unitary housing as shown in fig. 2 comprising: AV capture capabilities (210,200) for capturing video images and spoken audio of participant of a video conference, a monitor in 200 for displaying visual images associated with at least one participant, audio reproduction capabilities represented by 210 (Fig. 2, col. 3 lines 66-68, col. 4 lines 1-20).

Shibata differs from the claimed invention by not showing an adaptive echo canceler configured to reduce echoes during the reproduction of audio.

However, Park discloses apparatus and method for noise reduction for a full duplex speaker phone of the like which teaches the use of adaptive echo canceler configured to reduce echoes during the reproduction of audio (Figs. 1-3, see abstract, col. 13 lines 3-68, col. 4 lines 1-68, col. 5 lines 1-68, col. 6 lines 1-22, col. 7 lines 54-68, col. 8 lines 1-15).

Thus, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify Shibata's system to provide for an adaptive echo canceler configured to reduce echoes during the reproduction of audio as this would facilitate effective control of echo in

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a conference room where echos are caused by acoustic echo and electrical echo, thus providing good quality audio for conferees as taught by Park.

Regarding claims 2, Shibata further shows the following: receive the captured audio of a first, second and third participant, combine the received audio of the second and third participants into an audio sum, and reproduce the audio sum at the apparatus of the first participant (Figs. 2-5 , col. 4 lines 42-68, col. 5 lines 1-38).

Regarding claim 3, Shibata shows the following: speaker represented by 210 and wherein the apparatus is further associated with an audio control configured to cause reproduction of the audio sum at the first participant's workstation, such that the composition of the audio, originating from each of the second and third participants reproduced at each speaker is dependent on a position of the second and third participant's images reproduced on the first participants's monitor (figs. 3-4, col. 4 lines 64-68, col. 5 lines 1-38).

Regarding claim 3, Shibata does not show plurality of speakers.

However, Park teaches use of plurality of speakers in teleconferencing (fig.5 col. 7 lines 67-68, col. 8 lines 1-15).

Thus, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify Shibata's system to provide for plurality of speakers as this would facilitate conferees to obtain better audio quality of sound as taught by Park.

Regarding claim 4, Shibata does not show at least two echo cancelers.

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However, Park teaches the use of echo canceler (Figs. 1-3, see abstract, col. 3 lines 3-68, col. 4 lines 1-68, col. 5 lines 1-68, col. 6 lines 1-22, col. 7 lines 54-68, col. 8 lines 1-15).

Thus, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify Shibata's system to provide for at least two echo cancelers as this arrangement would provide better echo management, thus providing superior audio quality for conferees.

5. Claims 5, 6, rejected under 35 U.S.C. 103(a) as being unpatentable over Shibata in view of Park as applied to claim 2 above, and further in view of Feiner et al. (US PAT. 5,363,441 continuation of Ser. No. 993,063, 12-31-92, hereinafter Feiner)

Regarding claim 5, 6, the combination does not show the following: a wireless communication connection configured to accept signals transmitted along cellular telephone channels.

However, Feiner discloses technique for reducing echos in conference communications which teaches use of wireless communication connection configured to accept signals along wireless channels (Fig. 1 col. 2 lines 36-43).

Thus, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify the combination to provide for a wireless communication connection configured to accept signals transmitted along cellular telephone channels as this would offer independence and freedom to move the housing without being constrained by the availability of communication connection and also would enable to receive cellular calls.

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6. Claims 7-9, 11, 16-18, 20, are rejected under 35 U.S.C. 103(a) as being unpatentable over Shibata in view of Flohr, and Conway (US PAT. 5,444,476 filed 12-11-92).

Regarding claims 7, 16, Shibata shows the following: a plurality of workstations as shown in fig. 1, each including: a unitary housing, in a fixed spatial relationship to each other, a monitor represented by 200 for displaying participant video images, AV capture capabilities represented by (210,200) for capturing video images and spoken audio of participants, and audio reproduction capabilities, and an AV path (circuits-1, circuit-2), for carrying AV signals representing video images and spoken audio of the participants, among the work stations, for reproduction on at least one monitor associated with the workstation of one of the participants.

Shibata differs from the claimed invention by not teaching the following: a data path along with data can be shared among a plurality of the participants to be displayed interactively on the monitor, and use of two monitors to display data interactively.

However, Flohr teaches the use of LAN cable 100 that provides data path along which data can be shared among a plurality of participants and displayed on the monitor (Fig. 8, col. 13 lines 19-37).

Conway teaches the use of two monitor for displaying data interactively (fig. 1, col. 5 lines 18-68, col. 6 lines 1-68, col. 7 lines 1-15).

Thus, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify Shibata's system to provide for the following: a data path along with data can be shared among a plurality of the participants to be displayed interactively on the monitor as

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this would provide an economical way of transmitting data using low bandwidth network, and use of two monitors to display data interactively as this would enable greater teleinteraction among the participants as taught by Conway.

Regarding claim 8-9, 17-18, Shibata shows one monitor (Fig. 2), does not show a second monitor and configured to display visual images based on shared data on the second monitor, second monitor arranged adjacent to the first monitor at approximately eye level of a participant in a teleconference.

However, Conway teaches the use of two monitors for displaying data Conway teaches the use of two monitor for displaying data interactively (fig. 1, col. 5 lines 18-68, col. 6 lines 1-68, col. 7 lines 1-15).

Thus, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify Shibata's system to provide for a second monitor and configured to display visual images based on shared data on the second monitor, second monitor arranged adjacent to the first monitor at approximately eye level of a participant in a teleconference as this would enable greater teleinteraction among the participants as taught by Conway.

Regarding claims 11, 20, Shibata shows the following: an audio adder 1212 (audio summer) configured to receive the audio of a first, second and third participant and combine the received audio of the second and third participants into an audio sum for reproduction at the apparatus of the first participant (Figs. 2-5, col. 4 lines 42-68, col. 5 lines 1-38).

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7. Claims 12, 21, are rejected under 35 U.S.C. 103(a) as being unpatentable over Shibata in view of Flohr, and Conway as applied to claim 11, 20 above, and further in view of Park.

Regarding claim 12, 21, the combination shows a speaker, an audio control configured to cause reproduction of the audio sum at first participant's work station such that the composition of audio originating from each of the second and third participants reproduced at each speaker on the first participant's apparatus is dependent on a position of the second and third participant images produced on the first participant's monitor (Figs. 2-5, col. 4 lines 42-68, col. 5 lines 1-38), but does not show plurality of speakers.

However, Park teaches use of plurality of speakers in teleconferencing (fig.5 col. 7 lines 67-68, col. 8 lines 1-15).

Thus, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify the combination to provide for plurality of speakers as this would facilitate conferees to obtain better audio quality of sound as taught by Park.

8. Claims 10, 13, 19, 22, are rejected under 35 U.S.C. 103(a) as being unpatentable over Shibata in view of Flohr, and Conway as applied to claims 8, 17 above, and further in view of Park.

Regarding claim 10, 19, the combination does not show adaptive audio echo cancellation on audio originating at one participant, for reproduction at another participants workstation.

However, Park discloses apparatus and method for noise reduction for a full duplex speaker phone of the like which teaches the use adaptive audio echo cancellation on audio

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originating at one participant, for reproduction at another participants workstation.(Figs. 1-3, see abstract, col. 3 lines 3-68, col. 4 lines 1-68, col. 5 lines 1-68, col. 6 lines 1-22, col. 7 lines 54-68, col. 8 lines 1-15).

Thus, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify the combination to provide for Thus, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify as this would facilitate effective control of echo in a conference room where echos are caused by acoustic echo and electrical echo, thus providing good quality audio for conferees as taught by Park.

Regarding claims 13, 22, the combination does not teach use of at least echo cancelers,

Park teaches use of adaptive echo canceler (Figs. 1-3, see abstract, col. 3 lines 3-68, col. 4 lines 1-68, col. 5 lines 1-68, col. 6 lines 1-22, col. 7 lines 54-68, col. 8 lines 1-15).

Thus, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify the combination to provide for at least two echo cancelers as this arrangement would provide better echo management, thus providing superior audio quality for conferees.

9. Claims 14-15, 23-24, are rejected under 35 U.S.C. 103(a) as being unpatentable over Shibata in view of Flohr, and Conway as applied to claims 7, 16 above, and further in view of Feiner.

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Regarding claims 14-15, 23-24, the combination does not show the following: a wireless communication connection between the work station and the AV path, and communication connection configured to accept signals transmitted along cellular telephone channels.

However, Feiner discloses technique for reducing echos in conference communications which teaches use of wireless communication connection between the work station and the AV path, and communication connection configured to accept signals transmitted along cellular telephone channels.(Fig. 1 col. 2 lines 36-43).

Thus, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify the combination to provide for a wireless communication connection between the work station and the AV path, and communication connection configured to accept signals transmitted along cellular telephone channels as this would offer independence and freedom to move the housing without being constrained by the availability of communication connection and also would enable to receive cellular calls.

10. Applicant's arguments with respect to claims 1-24 have been considered but are moot in view of the new ground(s) of rejection.

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO**

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MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melur Ramakrishnaiah whose telephone number is (703) 305-1461. The examiner can normally be reached on Monday to Friday from 7 AM to 4 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis Kuntz, can be reached on (703) 305-4708. The fax phone number for this Group is (703) 305-9508.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-3900.

13. **Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks

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Washington, D.C. 20231

or faxed to:

(703) 308-9051, (for formal communications intended for entry)

Or:

(703) 305-9508 (for informal or draft communications, please label
"PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).


CURTIS A. KUNTZ
SUPERVISORY PATENT EXAMINER
GROUP 2700